Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

STATE POLICY OF FOREST AND WATER POWER CONSERVATION [1]

JOHN G. AGAR

THE two greatest natural resources of the state of New York outside of its strictly agricultural products are its forests and its waters. For something like thirty years the state government has exercised its power in an increasing degree for the conservation of the forests, and for something like ten years efforts have been made to exercise government control over the use of waters. The constitutional and statutory and common-law conditions controlling the utilization of both of these resources are so clear and restraining in some cases and so vague in others that it is timely, upon the eve of a constitutional convention, to consider how far, if at all, governmental powers should be either re-stated or extended or relaxed.

Assuming that the intimate relations between forests and stream-flow are generally understood, our brief discussion will be facilitated by considering the subjects of forests and waters separately, and by remembering that my suggestions will be limited to wide provisions which should form part of a fundamental law professedly limited to the statement of general principles.

It would, in the first place, be wise to provide in the new constitution for a management of the forests separate and distinct from the management of the water powers. Though the subjects are related, the duties involved in the management of each are so large and varied that no one department can efficiently promote them. One department should, therefore, be created to maintain and operate the state forests and one department should have exclusive management of the water powers in the state. Both should be placed, as far as may possibly be done, beyond the sphere of partisan politics.

[1] Read at the meeting of the Academy of Political Science, November 20, 1914.

The Forest Preserve

Government control over the forests of the state is limited to the forests upon the 1,825,882 acres of land owned by the state itself and constituting the forest preserve. Legislation has been proposed recently with a view to extending state control over private forests; but such a policy is subject to many objections and has as yet secured no place in our statute books. The forest preserve, therefore, is at present the sole embodiment of the idea of government control of forests in New York state.

The history of the development of this forest preserve is not a little interesting. It is not a reservation of virgin forest land which has always been in the possession of the state, such as the national forest reserves. Prior to the Revolution, when the state was forest-covered from Montauk to Niagara and from Manhattan to the St. Lawrence, northern New York, which is now the seat of the greater portion of the forest preserve, belonged either to the Indians or to the Crown, and immediately after the Revolution to the state. At a time when trees were so thick in places as to be a nuisance to the house-builder and the farmer, the colonial and state governments did not foresee any necessity for reserving tracts of forest land for future use. They therefore made enormous grants to private individuals for a song. In 1772 Joseph Totten and Stephen Crossfield, with the permission of the royal governor, secured from the Indians, for the sum of 1,135 pounds, a tract estimated to contain 800,000 acres. In 1791 Alexander Macomb offered eight pence an acre for between 3,000,000 and 4,000,000 acres of unappropriated land lying north of the Totten and Crossfield Purchase and known as the Macomb Purchase. By transactions like these, in kind if not in extent, the state alienated for a few dollars a patrimony which it has since been recovering in part at an hundred fold increase of cost. Of the present forest preserve, covering an area more than twice the size of Rhode Island, only 25,000 acres represent original ownership.

In the first half of the nineteenth century the owners of forest land in the more favorable parts of the state laid their

trees under the ax, and the havoc had advanced so far in 1822 that Governor DeWitt Clinton, in his message to the legislature, was moved to lament, not only the rapid felling of the trees, but also the fact that "no system of plantation for the production of trees and no system of economy for their preservation has been adopted." First the canals and later the railroads facilitated the denudation in the accessible regions west of the Catskills and south of the Adirondacks, while the mountain regions remained comparatively untouched. But with the exhaustion of the forests elsewhere, the enlarged demand for trees due both to increased population and to new uses, and the building of railroads in northern New York, the lumbermen transferred their activities to the Adirondacks.

In those early lumbering operations, no idea of reproduction was entertained. The object of the lumberman was to get his trees off the land. That being done, the function of the land was considered ended. Many owners did not deem their denuded property worth the taxes which were levied upon it, and at the tax sales which followed, the state took the lands in satisfaction of the taxes. In this manner 753,186 acres of the forest-preserve lands were acquired.

Somewhat more than that, namely, 769,136 acres, have been purchased by the state. The first actual appropriation of money for the purchase of land for forest purposes was $10,000 appropriated in 1883 during Governor Cleveland's administration. No further appropriation for land purchases was made until 1890. From 1890 to 1909, both inclusive, the state appropriated $4,075,000 for this purpose, but during the past five years, the policy of extending the forest preserve, so well begun, has unfortunately been held completely in abeyance.

The prices paid in many instances for the lands purchased by the state illustrate the folly of having parted with it in the first place and the costliness of procrastination in recovering it.

In 1850 the Legislature passed a law (ch. 250) providing that the state should not sell public land on the Raquette River for less than 15 cents an acre. The state has paid over $7 an acre to repurchase the same kind of land. Virgin forest land

which the state granted to Macomb for eight pence an acre commands to-day anywhere from $25 to $100 an acre.

Following is a recapitulation of the source of titles to the forest preserve:

	Acres
Purchase	769,136.96
Tax sales	753,186.53
Appropriated	68,192.41
Original ownership	25,290.48
Mortgage foreclosures	8,249.01
Land area	1,624,055.39
Waters	201,827.32
Total Forest Preserve	1,825,882.71

The interruption in the policy of extending the forest preserve, before alluded to, brings us to the consideration of the causes which led to the creation of the preserve and to the refusal of the legislature further to enlarge it.

The creation of the forest preserve was first dictated by the desire to check the disappearance of the trees and to conserve them for future use. Later, considerations of scenic beauty, health and pleasure entered into the situation. Impelled by the primary motives of conservation Clinton suggested forest protection in 1822; Verplanck Colvin publicly advocated state care of the forests in 1868, and in 1870 urged a state park; in 1872 the legislature created a commission to consider and report upon the creation of an Adirondack park; and Governor Dix in 1874 and Governor Cornell in 1882 urged the same policy; but nothing substantial was accomplished up to that time. In 1883, however, by chapter 13, the sale of state land was prohibited in ten Adirondack counties. In 1885, during Governor Hill's first term, the legislature created the forest preserve, embracing the lands owned by the state in fourteen (later increased to sixteen) Adirondack and Catskill counties. Five years later (in 1890), as before stated, the extension of the state's forest-land holdings by purchase was actively inaugurated.

The next important landmark in the history of the forest preserve, and really the most effective act of forest conservation in the history of the state, was the adoption of section 7 of article VII of the constitution in 1894. It was well to have created a forest preserve, but it was more important to preserve the preserve after it had been created. That is what was needed and that is what section 7 of article VII did. After the lapse of twenty years, when it is proposed to modify this provision of the constitution, it is well not to forget the compelling reasons for its adoption. Partly on account of the passage in 1883 of the laws forbidding the sale of state lands, and partly because railroads and increasing public appreciation of the Adirondacks enhanced the value of lands in the North Woods country, private parties desiring to acquire land endeavored to circumvent the law prohibiting the sale of state land by attacking the state's tax titles. Yielding to these demands pliant state officials prior to 1895 parted with about 100,000 acres of land in disregard of the law and rights of the state.[1]

When the seekers of state land could not get the land, they sought the timber on the land. There was nothing in the law of 1883 to prevent the sale of timber; but with the reckless lumbering methods then employed, fifty trees would be destroyed while one was being taken out.[2] When trees could not be bought legally, they were sometimes taken illegally. A system of timber-stealing grew up with the acquiescence or connivance of state officials. Trees were also killed by flooding, unsanitary conditions were created by dams, and the general misuse and mismanagement of the forests became so intolerable that in 1894 the constitutional convention unanimously adopted section 7 of article VII in the following words:

> The lands of the State now owned or hereafter acquired constituting the Forest Preserve as now fixed by law shall be forever kept as wild forest lands. They shall not be leased, sold or exchanged or

[1] *Comptroller's Report,* 1895.

[2] McClure, *Constitutional Convention,* 1894.

be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed.

In 1913 the section was modified so as to permit the use of three per cent of the forest preserve for water storage. This provision will be explained in treating of water powers hereafter.

The "limitation on governmental powers"—to quote the title of the topic of this meeting—thus imposed with respect to the forests was necessary and salutary. That is admitted by those who, during the last decade, have most vigorously criticized it. The question which now confronts us, in view of the approaching constitutional convention, is whether the time has arrived for a relaxation of these limitations on governmental powers, and, if so, to what extent.

Let us glance at what this section of the constitution accomplishes, and then consider whether, in the lapse of twenty years, conditions have changed sufficiently to warrant its modification. We must readily admit that this proposition has saved the land and partially saved the trees belonging to the state in the forest preserve. The immense importance of that achievement should not be forgotten.

On the other hand, the critics of the section charge the constitution with having prevented: (1) the cutting of ripe timber from which the state might derive a revenue; (2) the removal of dead, down and diseased trees which would improve the health of the forests and reduce the risk of fire; (3) the cutting of roads and fire trails, which would increase the public use of the forest preserve and decrease the fire danger; and (4) the leasing of camp-sites, which would contribute greatly to the public enjoyment of the state's property. At one time they made much of the prevention of water-storage on state lands, but that objection has been removed by the amendment of 1913. These objections are summed up in the sweeping and inaccurate statement that the state has a property valued at so many million dollars which it cannot use. That statement does not take into consideration the use of the forest in regulating stream-flow and performing other useful func-

tions even when standing apparently idle; nevertheless it appeals to many, and has had the effect on the legislature of completely cutting off appropriations for the extension of the forest preserve.

It must be confessed that the arguments are not all on one side; we are forced to balance the opposing considerations and estimate whether or not more will be gained than lost by the proposed changes.

The cutting of mature trees is favored chiefly on three grounds:

(a) It will yield a revenue to the state.

(b) It will improve the forest.

(c) It will encourage the extension of the forest preserve.

(a) Governor Glynn, in a message to the legislature on March 5, 1914, stated that "if the constitution were amended so that responsible state officers could direct the cutting of this matured timber, an annual revenue of $1,600,000 could be obtained for the state and thousands of men would find employment in our forests." It is held to be uneconomic for the state to buy forest land and not use its products; and the examples of the United States government in selling stumpage in national forests and of private reserves like that of the Adirondack League Club are cited as precedents for the sale and profitable utilization of the growth.

(b) It is claimed that the cutting of mature trees will improve the forest by preventing the trees from falling and going to rot, to the injury of the forest, and by promoting forest growth by letting in the light on the younger trees. Thus, while the state will derive a revenue from the sale of mature trees, it will at the same time create a cleaner forest and accelerate the growth of the coming crop.

(c) It is apparent that if the recent temper of the controlling influences in official life is to continue, it is not likely that appropriations for the enlargement of the forest preserve will be made while it remains impossible to utilize the tree product. The modification of the constitution therefore will open up the way to a resumption of the policy of extending the state's

holdings of forest land. If the cutting be restricted to soft-wood trees above a fixed diameter limit under strict state regulation, it is believed that the forest preserve will not be deprived of the covering necessary for the protection of the watersheds, the preservation of the scenery, the maintenance of game refuges and the existence of health and pleasure resorts.

The objection to the cutting of trees in the forest preserve is due largely to the feeling that politics plays too large a part in the state forest administration. The unlawful removal of timber from state land is only one of a series of abuses, beginning before the adoption of the constitutional provision of 1894 and continuing after its adoption, which has created in many minds a distrust which time has not dissipated. The frequent changes in the personnel of the forest administration have also unsettled public confidence and thwarted the establishment of a consecutive forest policy. In many minds there is skepticism about so-called "scientific forestry," and a belief that what is practicable on private preserves is impracticable under state auspices. It is also believed by many that the allurements of a large revenue from the sale of stumpage are deceptive, and that while a good revenue might be derived from favored localities, a continuous revenue of $1,600,000 a year is impracticable. The first stumpage sought will be in the most accessible parts of the forests, and therefore the tracts first to be deprived of the trees will be those near the railroads, lakes and streams which are most conspicuous to residents and visitors. It is held that trees are worth more as a standing forest cover and as a source of material for the forest floor than as a source of revenue from lumbermen; that in their far-reaching influence on climate and run-off of water they benefit the whole state; and that the complaint that standing forests yield no benefit to the state proceeds from a limited knowledge and one-sided view, which ignore their important effect on local meteorological conditions and stream conservation.

The removal of dead, down and diseased trees is favored for the safety of the forests. Dead and down timber, when dry, is more inflammable than green timber and adds greatly

to the fire hazard. This is particularly the case on land which has once been burned over. Many fire-killed trees are available for lumber if used within two or three years and might yield a revenue to the state. If left on the ground, they become the habitat of numerous parasites which are injurious to the forests. Diseased but living trees, it is held, should also be removed in the interest of the health of the forests, and to prevent the spread of disease like the chestnut blight.

It is objected, on the other hand, that dead wood performs a useful function in the forest. In the natural life cycle of a tree, its elements return to the ground. The removal of trees tends to impoverish the soil for future crops. Furthermore, the dead trees serve a useful mechanical purpose in providing the humus which acts as a sponge and restrains the run-off of rains and melting snows. This has a direct effect on local atmospheric conditions, and tends to restrain floods in streams. The other objection to the removal of dead trees is that it will encourage incendiary fires for the production of more dead trees. This fear has frequently been expressed by practical woodmen who know Adirondack conditions, but it is only fair to say that that spirit has probably abated materially in late years and would not exist at all if the cutting of mature green trees were permitted. As to the removal of diseased trees, it is claimed that there have always been forest parasites and that the forests have survived them in past ages. The great spruce blight which began in 1862 and culminated in 1878 is cited as an instance.

Roads and fire trails are needed for the use and the protection of the forests. The phenomenal development of self-propelling vehicles in recent years has resulted in an increased use of public highways, and places heretofore inaccessible are now reached with ease by means of good roads. The public should not be kept out of the state forest preserve by a bar erected before this revolution in travel was effected. It is felt that a change almost equal to that following the invention of the locomotive engine, a change which has come since the constitution of 1894 was adopted, calls for a corresponding modernization of the constitution. Roads in the forests will

also act as fire-breaks, and with fire trails greatly facilitate access to fires for their extinguishment.

Almost no objection to the foregoing proposition has come to my notice. The only objection to roads and fire trails has come from the fear that if the cutting of trees were permitted for this purpose, more trees than were necessary would be cut.

The leasing of camp-sites would allow a fuller use of the forest preserve for the general health and pleasure. Camping on state land is now permissible under temporary permits, but only temporary cover can be used. The modification of the constitution which will permit the erection of a camp more substantial than a tent will greatly enlarge the use of the forest preserve by women as well as men. The leasing of sites under restrictions as to length of tenure and manner of use is entirely compatible with the purpose for which the preserve was created, and under proper regulations, as in the Yellowstone Park and elsewhere, would conduce to the safety of the forests. Many complain that the rich who own private land surrounded by state property can enjoy the benefits of a forest retreat, while people of moderate means are deprived of access to state land in which they have a share of ownership.

The principal objection to the leasing of camp-sites has been the fear that through favoritism certain parties would receive partial treatment at the hands of the forest administration which would thwart the very object in view, so far as the public is concerned; and that the more pretentious camps would involve a large destruction of trees and would not conduce to the safety of the forests.

The exchange of lands outside the blue lines is another desideratum sought to be allowed by a constitutional amendment. The bounds of the Adirondack park and the Catskill park as defined by law are indicated on the state maps by heavy blue lines. The areas within these lines are owned partly by the state and partly by private parties. Outside of these blue lines lie certain detached parcels of forest-preserve land which are practically useless for forest-preserve purposes and which are a source of expense to the state. These pieces of forest-preserve land outside the blue lines might be dis-

posed of to the advantage of the state and the proceeds applied to the acquisition of additional land inside the blue lines.

No objection to this proposal has come to my notice.

Probably no one would object to modifying the constitution in the respects mentioned if he believed that the acts so permitted would be performed properly. Theoretically, the sale of mature timber is the rational practice; but will the timber be removed rationally and honestly? Theoretically, the removal of dead, down and diseased timber is in some respects beneficial to the forest; but if this be permitted, will it or will it not lead, as many fear, to the making of a great deal more dead timber to be removed? Will the construction of roads and trails be limited to those which are necessary; and will the leasing of camp-sites be done without favoritism?

In canvassing these questions with many men of large experience with our forest preserve it appears that most of their answers turn upon the degree of confidence which they have in the integrity, knowledge and intelligence of the legislators, and in the integrity, intelligence, training and efficiency of the public officials having to do with the forest management. Those who desire a modification of the constitution can hardly rely upon any radical change in human nature in two decades for their hope. There was probably as high a standard of honesty and good purpose in private and public life prior to 1894 as there is in 1914. There has been, however, an important change in twenty years which, many of us believe, makes it safe to relax somewhat the stringency of the present provisions. In twenty years there has been a great development of public intelligence and interest concerning forests and forest management. Conservation congresses have aroused public sentiment. Colleges and schools of forestry have educated trained foresters and teachers of forestry. Civic associations have been formed for the dissemination of popular information about trees. And lumbermen themselves have come together to consider if they might not profitably follow more productive methods than those of their fathers and grandfathers. There are, too, more agencies now watching the administration of public affairs, and public officials are more

responsive to public opinion than twenty years ago. All of these forces serve to encourage the hope that the time has come when, with proper safeguards, section 7 of article VII may be modified.

In considering the desirability of so amending the constitution as to permit the cutting, removal and sale of dead and down and mature timber and trees, the building of roads or fire trails and the leasing of camp-sites, we must remember that the fundamental condition is that nothing should be permitted which will really impair the value of the forest for all the people.

Theoretically the best means of preserving the forest is to use it. But in order to bring our protection up to that rational theory of use we must establish many safeguards:

First: The constitution should permit the cutting of mature timber only, and should prohibit the cutting of all other standing trees. The word " mature " should be defined as covering trees not less than ten inches in diameter at a point not less than four feet from the ground. It will be wise for the present to confine the cutting to the soft-wood trees or conifers, that is, the pine, spruce, hemlock, cedar, balsam and tamarack, and to prohibit the cutting of hard-wood trees. Of course, scientific forestry principles allow equally the cutting of hard and soft wood, but the vital point is to preserve our forest cover. In much of the Adirondacks it does not pay to cut the hard-wood trees, hence the limitation of cutting to the conifers will not greatly diminish the possible revenue to the state. Moreover, as the forests are in general more or less evenly divided between hard and soft-wood trees, the exclusion of the hard-wood trees from the cutting will preserve a satisfactory forest cover.

It would also be desirable, and indeed imperative, to prohibit the cutting of any trees and the removal of dead and down timber on the steep forest slopes of the principal watersheds, as any change from natural conditions there seriously augments erosion, and would be detrimental to forest growth.

Second: Politics must be eliminated as far as possible from the management of the forests. The administration should be

placed in the hands of experts, and responsibility should be concentrated. A single commissioner, who should be an experienced forester, should be appointed by the governor, without confirmation by the senate, for a long term of years or during good behavior, and should be removable only for cause. This commissioner should appoint all officers and employes in any way engaged in the forest service, as the result of open competitive civil service examinations, which should be of a practical nature. This single commissioner, appointed by the governor, concentrates responsibility and seems to be better than a commission of several members.

Third: Any citizen should have the right to bring suit in the supreme court to enforce the provisions of the constitution and enjoin violations. This power and duty have been conferred in the past upon the attorney general alone, but experience has shown that some attorneys general could not be relied upon, and it is important to supplement the action of that official by that of the watchful friends of the forest.

In order to carry out these suggestions which will allow the use of the forests and at the same time preserve them, I submit that article VII, section 7, should be re-adopted in its original form and that its prohibitions should be relieved by subsequent provisions, authorizing a large use in such manner as would not be detrimental to the forests. The entire provision would read as follows:

The lands of the state now owned or hereafter acquired constituting the forest preserve as now fixed by law shall be forever kept as wild forest lands. They shall not be leased, sold or exchanged or be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed.

The foregoing prohibitions shall not prevent the cutting or removal or sale of dead or fallen timber or trees, or mature spruce, pine, cedar, balsam, tamarack and hemlock trees not less than ten inches in diameter four feet from the ground, detrimental to forest growth on lands constituting the forest preserve, nor the leasing of camp-sites, nor the construction of roads and fire trails. The legislature may authorize the sale of lands outside the limits of the Adirondack park and of the Catskill park as such parks are now established by law.

The proceeds of such sales of lands and all other net revenue from the forest preserve shall be set apart in a separate fund and shall be used for the purchase of lands by the state in the Adirondack and Catskill parks, for the reforestation of lands owned by the state in said parks and for such other purposes for the benefit of the forest in said parks as the commissioner shall approve.

The forests of the state shall be under the care and management of one commissioner called the forest commissioner. The commissioner shall be appointed by the governor for a term of ten years and may be removed by the governor for cause and upon reasons publicly stated and after a public hearing if the commissioner demand one. The commissioner shall not be charged with any public duties except those which relate to the forests and he shall appoint all officers and employes engaged in the service of the commission from eligible lists resulting from open competitive examinations conducted by the civil service commission.

Action may be brought in the supreme court by any citizen to enforce the provisions of these sections and to prevent their violation.

Furthermore, the state within a reasonable time should acquire and hold all the forest lands in the Adirondack and Catskill parks. The best method of raising funds for acquiring these lands would be to enable the state to issue bonds for that purpose alone, and authority to do so should be given in the new constitution.

Water Power

Coming now to the subject of the state policy with respect to water-power conservation, we find ourselves confronted with new and complex problems.

Until the beginning of our modern hydro-electric age, the use of water power was simple in manner, and simple laws were adequate for its regulation. The mill was built on the mill-stream and the power was used there. A power development was a localized enterprise. Comprehended within narrow physical limits, its legal relations were easily comprehended; and until recent years, the common-law doctrine that the riparian owner was entitled to the exclusive and beneficial use of the water flowing by his property was accepted in this state.

But the advances made in the application of electric power developed from water have created new social demands and have caused established legal principles to be questioned, if they have not created new legal rights. It is not merely the transformation of hydraulic energy into electrical power that produces our new problems; but also the fact that the energy thus developed may be transmitted two hundred miles or more from the point of development. Instead of the customer carrying his grain or lumber to the mill-power, the mill-power is transmitted to the customer. It is thus widely diffused, and in multifarious forms of light, heat and power, it has become intimately and indispensably incorporated in modern life.

For about twenty years, but more particularly during the past ten years, legislators and others interested have been groping about for a legal formula which would fit modern conditions and permit the development of the water resources of the state with justice to both public and private interests; but as yet without satisfactory results. Now, upon the eve of the constitutional convention, this problem should at least be analyzed and stated. The forest question might, if desired, be left *in statu quo* without serious loss, but the water-power problem cannot be so treated.

Let us see, then, what water resources we have and who owns them; and then determine, if possible, some general features of the policy that should be established with respect to them.

Many estimates have been made of the potential energy of the waters of this state. Mr. Walter McCulloch, in his testimony before the joint committee of the legislature on water conservation, of which Hon. T. Harvey Ferris was chairman, on September 7, 1911, testifying concerning the results of a census of developed and undeveloped water-power in this state, made under his supervision in 1908, stated that there were then 1,824 hydro-electric power plants in the state with a total actual development of 619,020 horse power. He also estimated that there was from 880,000 to 1,000,000 horse-power undeveloped in the state of New York, exclusive of Niagara and the lower St. Lawrence, and not including devel-

opments on the Canadian side. If to this be added 100,000 horse power as the resource of the lower Niagara River, and 400,000 horse power as the resource of the St. Lawrence, the total hydro-electric power resource of the state, actual and potential, would appear to be about 2,000,000 or 2,100,000 horse power. From figures derived from various sources, it is estimated that from 5 to 7½ per cent of this resource is within the Adirondack park.

These figures, when converted into equivalent terms of coal values, are alluring and indicate the enormous potentialities of this resource. But without enlarging upon the quantitative details, let us consider what must be done to pave the way for the development of these possibilities.

And first, who owns these waters, and then what modification of the constitution and statutes is necessary to their fullest use? Titles along the Hudson and Mohawk rivers, titles along the Niagara and St. Lawrence rivers, and titles along other streams rest on somewhat different legal principles.

The courts have held that because the grants along the Hudson and Mohawk rivers were made originally by the Dutch, the civil law applies thereto, and title to the bed of the stream is vested in the state. As a matter of fact, however, the state, during the past hundred years, has granted the bed of the river at practically all the available power sites to adjacent land owners, so that so far as present legal problems are concerned, these rivers differ little from the other inland streams of the state.

Along the Niagara and St. Lawrence rivers a condition analogous in nature but not in comparative extent exists. The courts assume that by the Revolution title to the bed to mid-stream became the absolute property of the state. At Niagara Falls, however, the state, beginning in 1886, has made prodigal grants of water power to private corporations, without compensation to the state, so that at that point along the international boundary the question of private ownership must also be met. Elsewhere along the Niagara and St. Lawrence the situation is simpler owing to the undisputed title of the state.

The authority of the state to grant away irrevocably the people's right to use water power on boatable streams has been questioned, and in view of the opinion of the Supreme Court of the United States in the Chandler-Dunbar case,[1] that contention cannot be ignored. But for the purposes of this discussion we assume that the irrevocable grants by the state of water power and sites to private parties without adequate compensation are final and irrevocable. With respect to the other streams of the state, the common law of private ownership to the middle of the stream applies.

We thus find the water-power resources of the state, actual and potential, in two kinds of ownership—state and private. Concerning the former, the duty of the constitutional convention would appear to be clear to put an immediate prohibition upon any further absolute alienation of state ownership in water power. It may not be practicable to recover what has been given away at Niagara Falls, but what the state now owns should be saved. It would have been well if we had put into our constitution thirty years ago a prohibition of the alienation of state lands under water, or water power in any form—a prohibition corresponding to the forest-preserve section which we adopted twenty years ago for the preservation of the forests. It is to be hoped some such provision will be inserted in the revision of 1915, and a further and more general provision prohibiting the legislature and state officials from parting with state property of any kind without due process of law and just compensation to the people. The Niagara charters parted with state property without just compensation to the people and the Long Sault charter proposed the same surrender in the St. Lawrence without adequate return.

The water-power amendment to article VII section 7 of the present constitution should be continued. This reads that the legislature may by general laws provide for the use of not exceeding three per centum of such lands for the construction and maintenance of reservoirs for municipal water supply, for the canals of the state and to regulate the flow of streams.

[1] U. S. *v.* Chandler-Dunbar Co., 229 U. S. 53. See particularly pp. 68-9.

Such reservoirs shall be constructed, owned and controlled by the state, but such work shall not be undertaken until after the boundaries and high flow lines thereof shall have been accurately surveyed and fixed, and after public notice, hearing and determination that such lands are required for such public use. The expense of any such improvements shall be apportioned on the public and private property and municipalities benefited to the extent of the benefits received. Any such reservoir shall always be operated by the state, and the legislature shall provide for a charge upon the property and municipalities benefited for a reasonable return to the state upon the value of the rights and property of the state used and the services of the state rendered, which shall be fixed for terms of not exceeding ten years and be re-adjustable at the end of any term. Unsanitary conditions shall not be created or continued by any such public works. A violation of any of the provisions of this section may be restrained at the suit of the people or, with the consent of the supreme court in appellate division, on notice to the attorney general at the suit of any citizen.

Again, the new constitution should provide with proper safeguards that power companies engaged in the transmission of electrical energy to municipalities should have the right to cross any portion of the forest preserve under proper conditions and upon making proper compensation therefor.

One of the most perplexing aspects of the problem before us is presented by the privately owned riparian rights. A hundred years ago it was a comparatively easy matter for the owner of a mill-site to acquire by purchase all the land he needed for his mill-pond. To-day, the economic development of power sites seems to require either that the state shall provide legal means by which a private riparian owner may condemn adjacent private property for his own use, as is done under the mill acts of the New England and some other states, or that the state itself shall appropriate the riparian property and develop it or supervise its development for the general good.

Under the constitution the right of eminent domain may

be exercised by one private property owner over the land of another in two cases, namely, to build private roads and to build private drains for agricultural lands; but the people of this state would not regard favorably a proposition to amend the constitution so as to permit one riparian owner, for the purpose of water-power development, to appropriate the property of another, even with just compensation.

We are therefore driven back to the question whether the development of a water power is a "public use" for which the state may now condemn private property under the constitution, and if not, whether we shall amend the constitution so as to permit it. In view of the existing doubt on this point, it would seem to be advisable to make distinct provision in the new constitution for the taking of private property by the state for the development of water-power.

With this fundamental principle established by the constitutional convention, the formulation of a water-power policy may be safely left with the legislature.

The possible methods of water-power development afford a wide field of choice and may be stated in the following order somewhat with respect to the share of state participation:

(1) The private development on private property with which the state has practically nothing to do, being subject to only a moderate measure of state regulation through the public service commission.

(2) The possible mill-act plan, which would permit one private owner to condemn the property of another and conduct the business privately—a plan which never had any foothold in this state.

(3) The plan proposed in the Jones Bill in the last legislature, in which the state builds reservoirs primarily for regulating stream-flow, and simply assesses the cost on the beneficiaries without disturbing them in the private use of the regulated waters. Power production at the reservoir site would be only incidental to such a plan.

(4) Going a step further, we come to the plan suggested in various proposed legislation for the creation of river-improve-

ment corporations or quasi-public service companies, which shall have power to develop and sell electrical energy, under state regulation, furnishing the capital themselves and paying an annual charge to the state. The title to the property would vest in the state at the end of fifty years. This plan might also be used for power developments on property already owned by the state, as in the Niagara and St. Lawrence rivers, instead of granting franchises outright to private parties as was proposed in the Long Sault bill.

(5) And lastly we have the proposition that the state, from the very outset, shall furnish the capital, develop and own the property, and sell the electrical energy to the public—in other words, enter into the water-power business in competition with private enterprises.

We do not know which general plan will be adopted. That does not concern us here. All the convention can do is to make it possible by constitutional provision for the legislature to work out a plan just and practicable. My idea is that the state shall help and encourage private enterprise rather than supplant it, at the same time imposing such regulations as shall prevent monopoly, secure adequate public service at reasonable rates, and provide for a return to the state for the benefit of its assistance.

To sum up, the new constitution should provide:

(1) That three per cent of the lands of the state in the forest preserve may be taken for the construction of reservoirs for the purposes and on the conditions provided for by the amendment of 1913 to article VII section 7 of the constitution.

(2) That power companies engaged in the transmission of electrical energy to municipalities may have the right to cross any portion of the forest preserve under proper conditions and upon making proper compensation therefor.

(3) That the development of the water power of the state is a proper governmental function and that private property therefor may be taken upon just compensation being made.

(4) That water power owned or controlled by the state in any form may not be sold, granted or given away or alienated

in perpetuity or in any manner removed from public ownership, and that leases when made should be limited to a period of years sufficient to attract the investment of capital, and should be irrevocable except for cause and reviewable by the court.

(5) That no state property of any kind should be alienated without just compensation.

(6) That the water powers should be administered under one commissioner. He should be appointed by the governor for a long term of years and might be appointed by the governor for cause and upon reasons publicly stated, and after a public hearing if the commissioner demanded one. The commissioner should not be charged with any public duties except those which relate to the water powers, and he should appoint all officers and employes engaged in the service of the commission from eligible lists resulting from open competitive examinations conducted by the civil service commission.

In conclusion, it may be said that the people of the state will look forward hopefully to the coming constitutional convention for assistance in preparing the way for something which may properly be called a " state policy " in reference to our forests and waters. The opportunities for the highest order of constructive statesmanship are great.